



P O R T F O L I O

ellie richards

URBAN DESIGN . PLANNING
eelizabethrichards@gmail.com | (850) 625-1583

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APA Student
Design Comp



Hi, I'm Ellie.

Streetscape Design Guidelines

Metro Nashville Planning Design Studio

Project: Nashville's East Bank is exploding into a 550 acre neighborhood with hundreds of millions invested in infrastructure, a state-of-the-art football stadium, high rise housing, office, riparian park, and entertainment district. Historically, Nashville has approached streetscape reactively as problems arise. This provides an opportunity to start from scratch, by establishing streetscape design and placemaking *proactively* to meaningfully shape East Bank's growth.

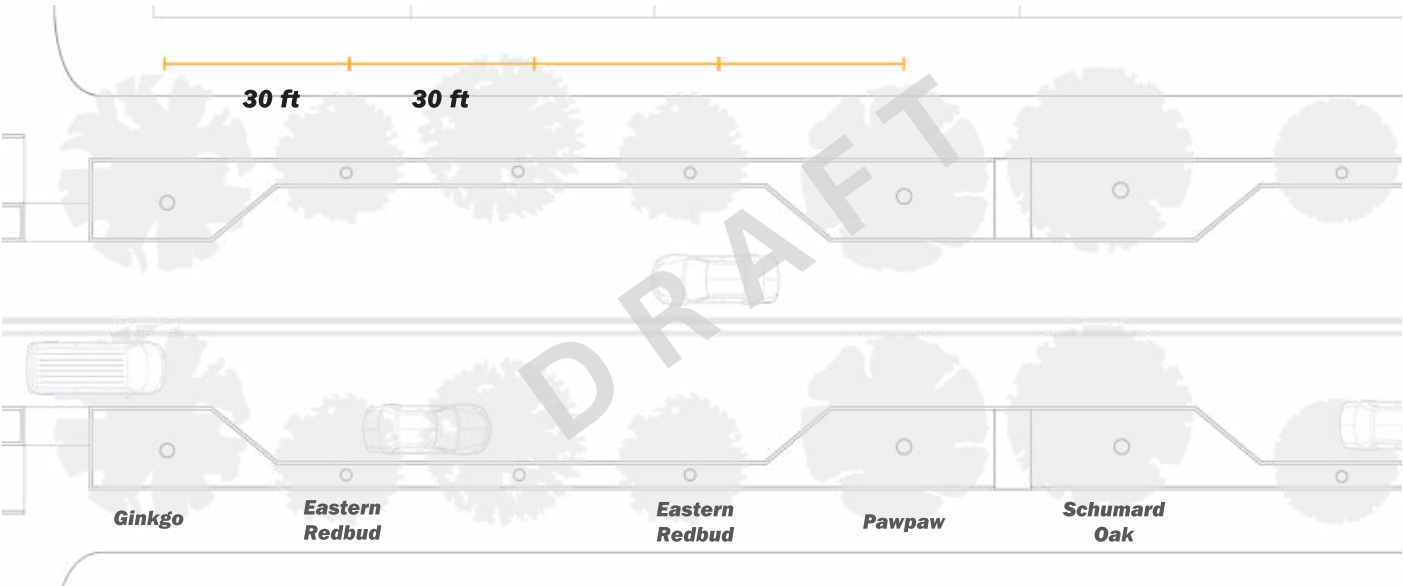
Solution: I developed a streetscape standards document and wrote the content based on a synthesis of national standards and design guidelines from cities across the country, and meetings with furniture manufacturers. I led the team through more than a dozen rounds of edits. I am pushing the final document which will be adopted as a text amendment before council.

Tools: InDesign, Photoshop, Illustrator, Sketchup, Excel, ArcGIS, Rhino, ArcGIS Pro

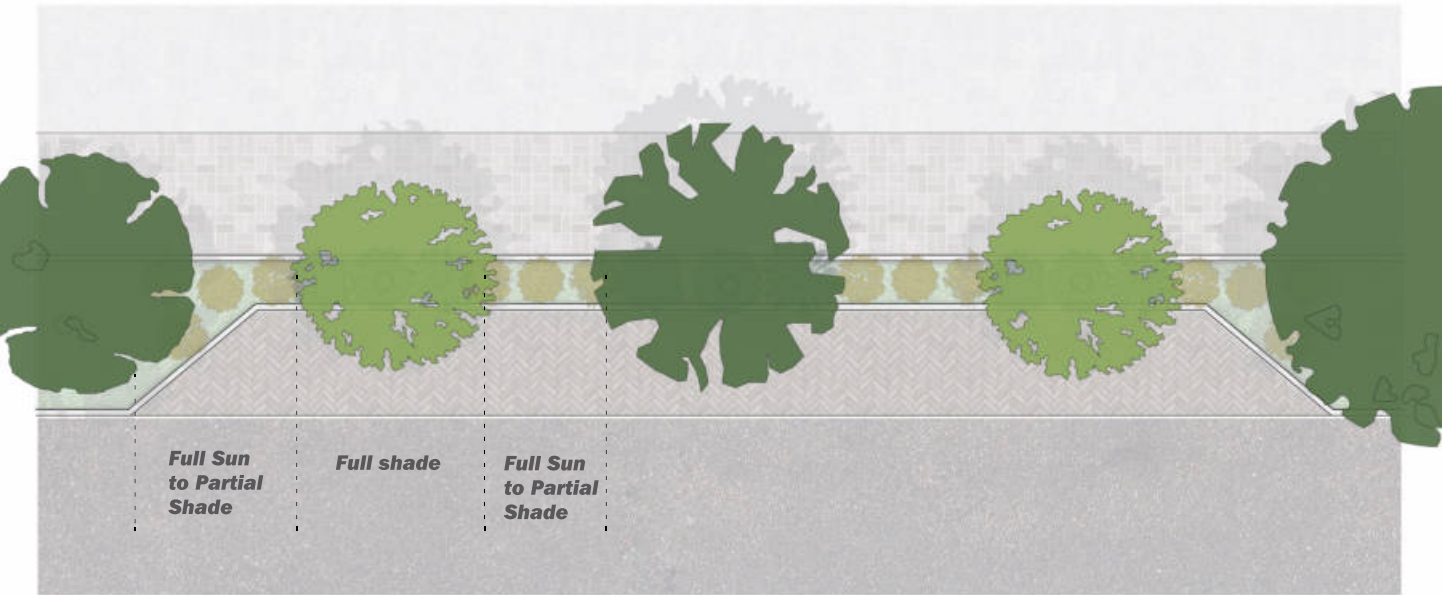


Initial process sketches and moodboards led to a clear vision for spacing, relationship of furniture and buildings, defined and undefined spaces, district identity, and texture.

I organized an office crit and implemented subsequent feedback

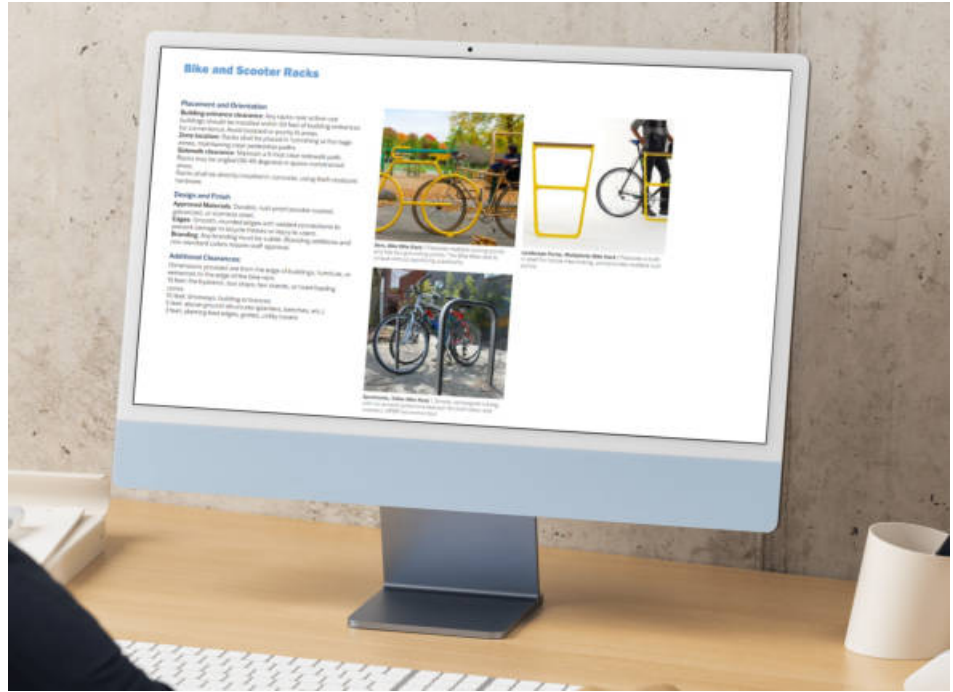


Recommended Tree Placement Diagrams



Streetscape Design Guidelines Cont.
Metro Nashville Planning Design Studio

These diagrams illustrate furnishing placement and zones. I had many fun meetings with amazing vendors and designers in the furniture selection process.



The document will be made available to developers and architects online and will be adopted by council!

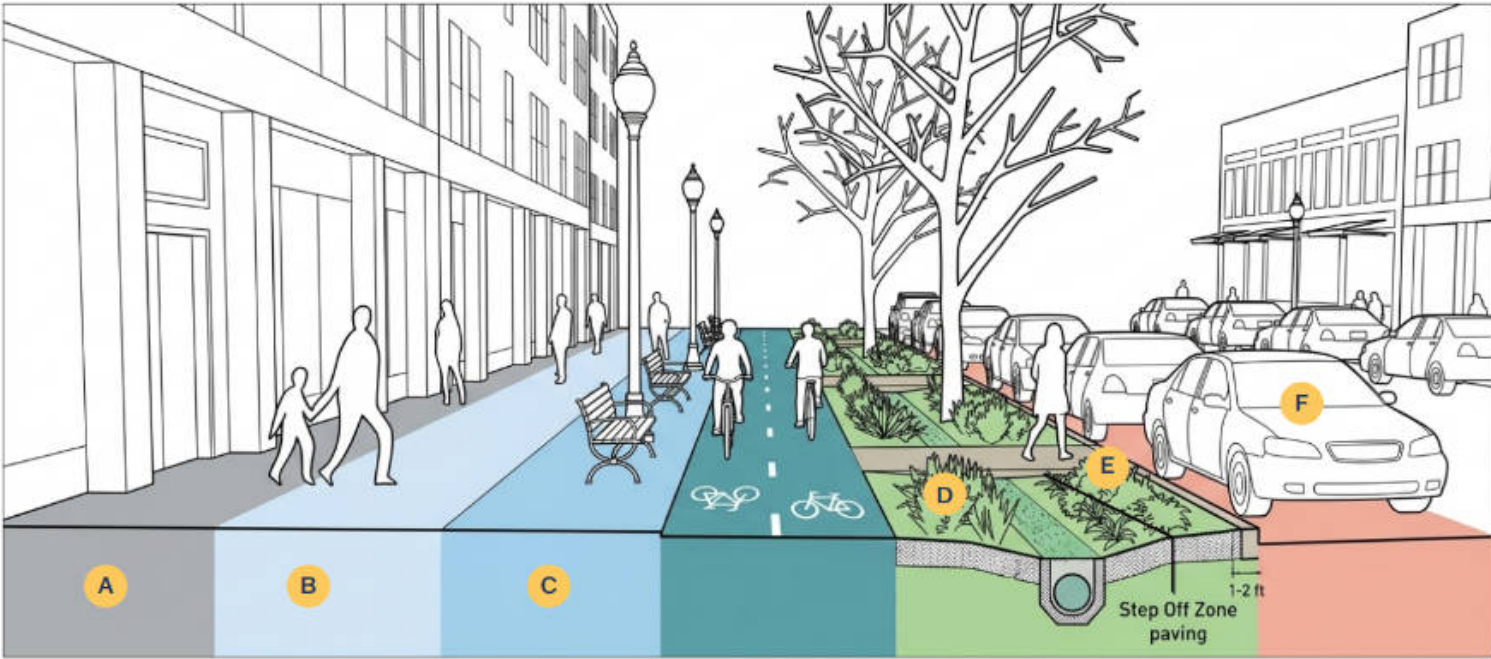


Frontage Zone

Amenity Zone

Median and Buffer Zone

Street Zones



- A Frontage Zone (Build-to zone)**
The area between a building facade and the property line, including both private and public property, that serves as a transition zone between the building and the public right-of-way. Frontage areas often include entrances, landscaping, outdoor seating, and other elements that activate the street edge.
- B Pedestrian Zone**
The portion of a street or public space dedicated to pedestrian movement, typically including sidewalks and crosswalks. Prioritizes safe, accessible, and comfortable travel for people walking, using mobility devices, or otherwise moving on foot.
- C Furnishing / Planting Zone**
The portion of a streetscape designated for street furniture, lighting, trees, and other fixtures and furnishings. This zone creates a buffer between pedestrians and vehicular traffic.
- D Bioswale**
A shallow, vegetated channel designed to slow, filter, and absorb stormwater runoff. Bioswales use soil and plants to remove pollutants and reduce the volume of water entering storm drains.
- E Step-Off Zone**
Provides safe drop-off zone for pedestrians exiting cars and rideshare services. Typically located on the median between curb and bike lane.
- F On-Street Parking**
Areas within the public right-of-way or on private property specifically designated for the temporary storage of vehicles. On-street parking zones may include parallel, angled, or perpendicular parking spaces.

Riverfront Park and Street Activation

Metro Nashville Planning Design Studio

Project: Nashville's famous Broadway strip terminates at Riverfront Park and First Avenue, but the park is eerily empty after years of minimal programming and investment. Three Metro-led initiatives with three different consultant scopes aim to improve the park and first ave. These initiatives with **Gensler**, **Sasaki**, and **Scape** explore the urban fabric, park programming, and the parks ecological place on the river.

Solution: I answer consultant document requests and provide diagrams and basemaps. I contribute weekly feedback on ideas, participate in design charrettes, edit scopes and drafts, and provide feedback on developing plans and designs.

Tools: InDesign, Illustrator, Photoshop, Sketchup, AutoCAD, TwinMotion, Rhino, ArcGIS, VRAY



Street and Park Activation Zone, Design Ideation Sketch

First Avenue Historic Frontage Photo Collage



I created this diagram for the Ecological team to illustrate how the greenway, riparian plantings, and river interact.

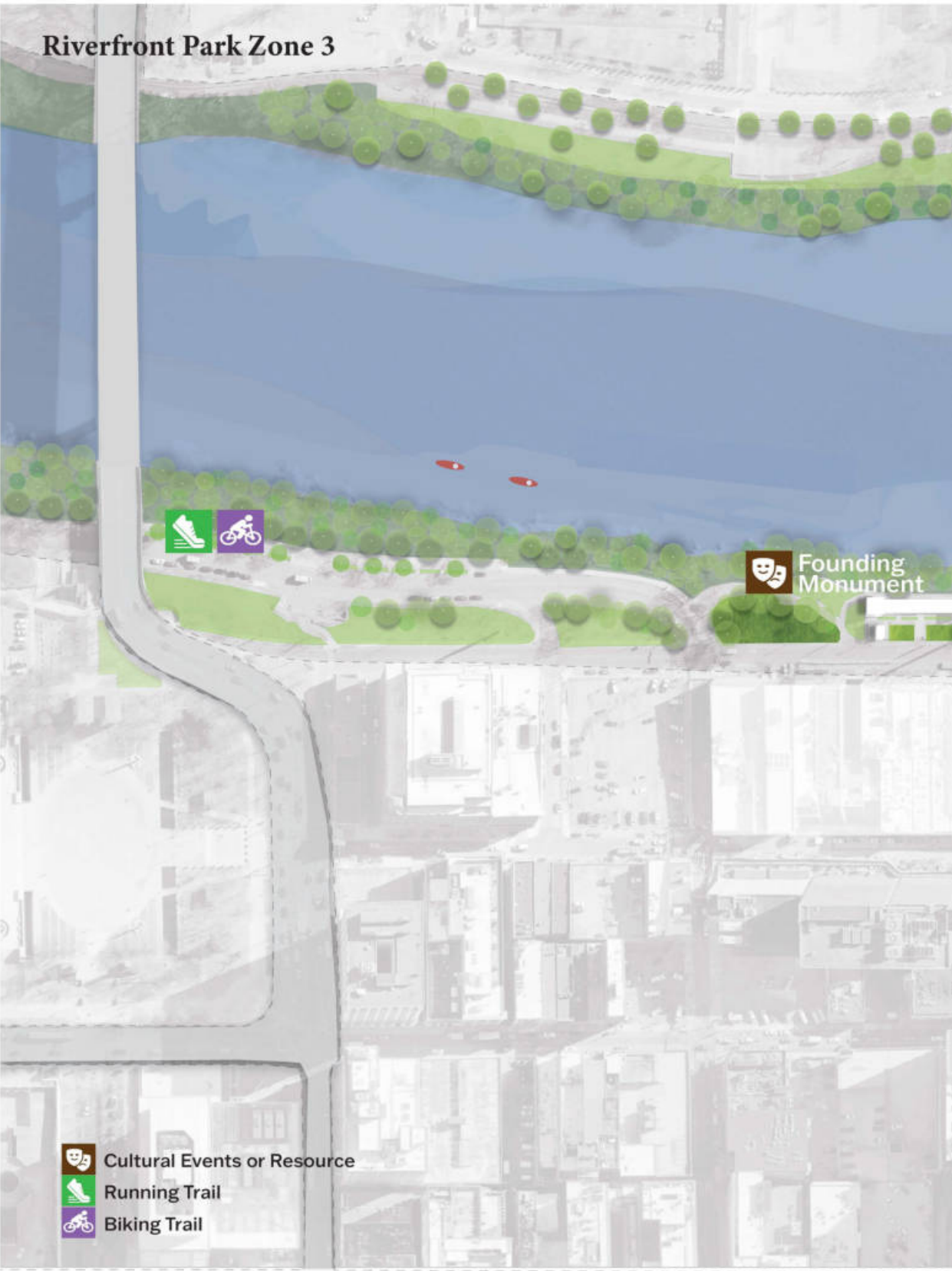


I generated kiosk renderings of Neri Kiosks for use on First and Second Avenues.



Riverfront Park and Street Activation Cont.
Metro Nashville Planning Design Studio

I created a series of diagrammatic Riverfront base maps to orient our consultants to the site.



Housing Infill Schematic Design
Metro Nashville Planning Design Studio

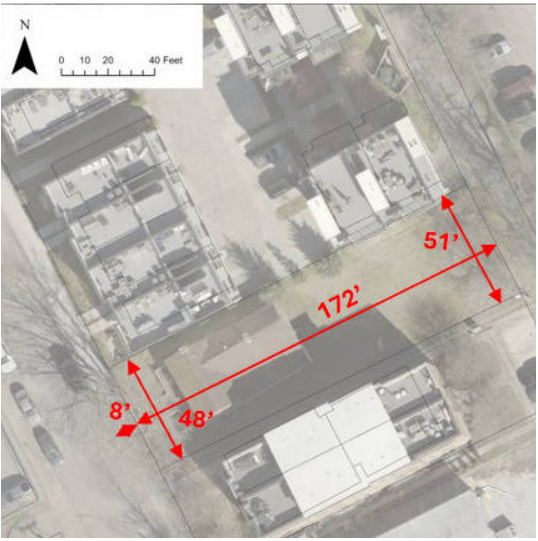


Project: Nashville is in a housing crisis and we face a growing gap. To keep pace with demand we must build 90,000 units over the next decade. The infill housing project proposes 1,400 housing units on metro-owned land across the city.

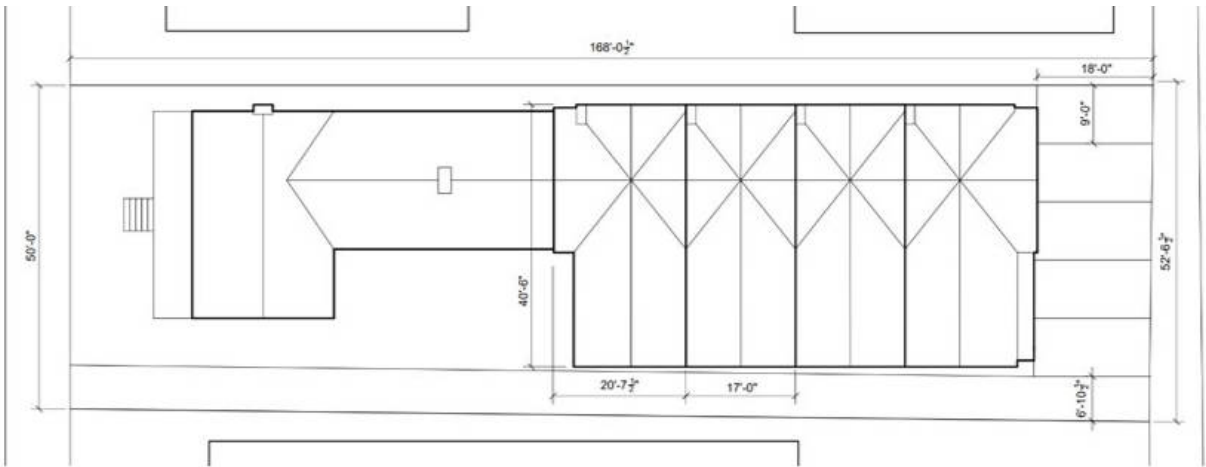
Solution: Each infill site is uniquely challenging. I designed housing concepts for each of the ~12 sites. This site renovates an existing historic brick frame building and adds four townhouse units attached.

Tools: InDesign, Photoshop, Sketchup, TwinMotion, Rhino, Arc Urban, TestFit Real-Estate Software

Proposed Program:
4-unit Townhouse
Addition: 770, 1500 sf
Residential: 5 units total
Total Parking: 6 spaces
Shared space: 630 sf



The site ranges from 46' wide at the street to 51' in the rear. The structure is historically significant and should remain intact. Zoning allows for parking on the alley and unit entrances are not required on frontage.



Plan View



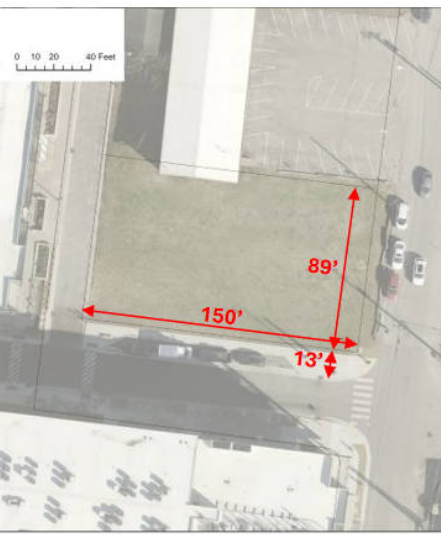
Northwest Facing Section



Solution: This site is located in a former industrial warehouse district and is surrounded by mid-rise housing developments. I designed this 44-unit building as a test-fit to assess site zoning and capacity.

Tools: InDesign, Photoshop, Sketchup, TwinMotion, Rhino, Arc Urban, TestFit Real-Estate Software

Proposed Program:
44 Total Units; 35% Affordable Target
12 Studio units
18 1-BR units
14 2-BR units
6,000 SF of Ground Floor Activity
2,575 SF Interior Amenity Space
2,292 SF Exterior Amenity Space
44 Total Parking spaces, 1 per unit



This site is 150' by 89' bordering an unused industrial warehouse. This site is located within a design overaly and allows for up to 7 floors of density with mixed uses on the ground floor.



East Facing Perspective



East Facing Section



North Facing Section

Open Space Park Assessment
Lardner Klein Landscape Architects
and City of Alexandria

Project: The City of Alexandria VA commissioned us to assess and catalog park service in the Alexandria West Neighborhood to inform budget allocations and infrastructure investment.

Solution: Alexandria needed benchmarks to assess how their parks were meeting the neighborhood’s needs. I used Trust for Public Land, NRPA, and population projection data to create benchmarks. I took photos and conducted site assessments of each park, sport court, playground, and nature area. Using this data, I made maps and diagrams to illustrate accessibility to developed parks with amenities. This helped to create the Level of Service Matrix which determined how many amenities were missing in the park system.

Tools: Excel, ArcGIS, InDesign, Photoshop, Social Explorer

Map 4. Walkshed and Developed Parks

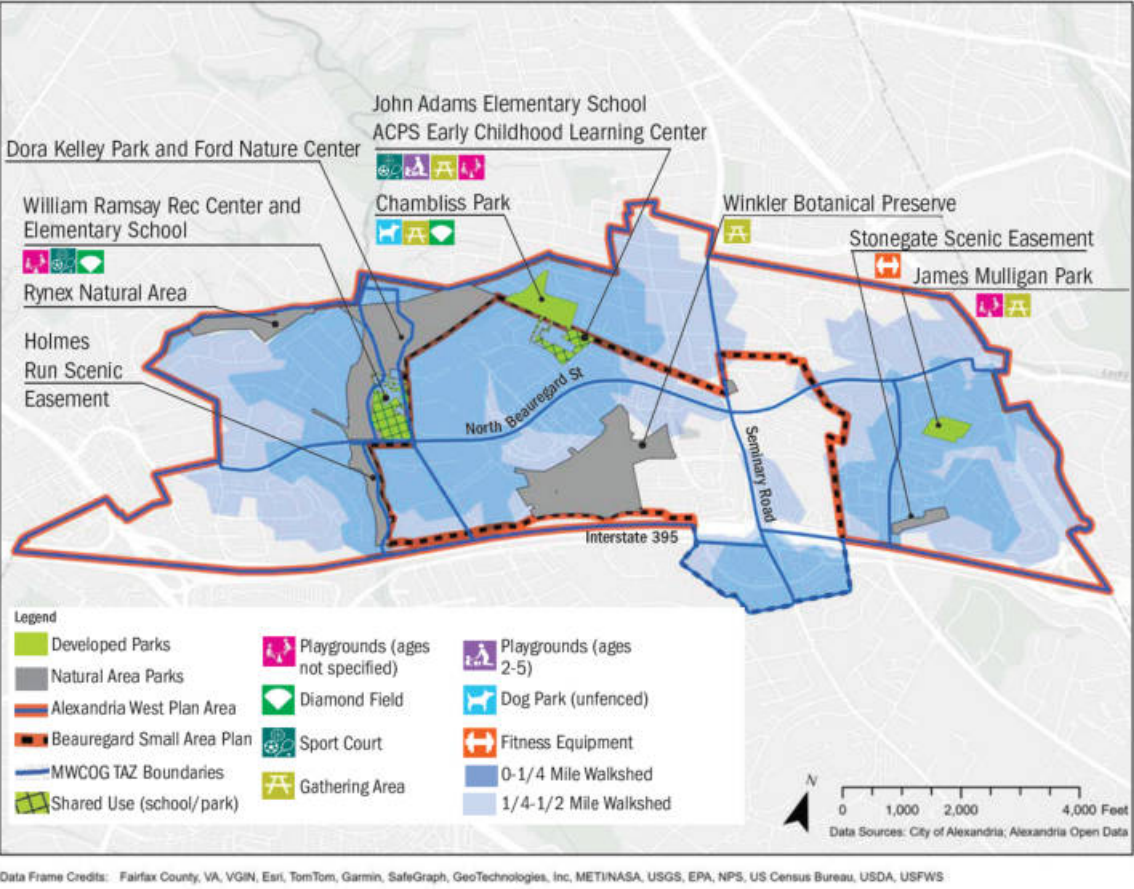


Table 11 cont. Alexandria West Planning Area Existing Amenities per Projected 2045 MWCOG TAZ Population												
	Futsal Court	Pickleball (outdoor)	Skate Park	Picnic Tables (Gathering Area)	Diamond Fields ¹	Rectangular Fields (multipurpose)	Overlay Field	Multipurpose Field (synthetic)	Splash Pad	Swimming Pool (outdoor)	Swimming Pool (indoor, competitive)	Open, informal, unprogrammed lawn
2045 MWCOG TAZ Population in Alexandria West Planning Area = 44,323								↑				
2023 Existing Number of Amenities	2	0	0		2	0	0	0	0	0	0	
Ratio: 2045 Population/ 2023 Existing Amenity	22,162	44,323	44,323		22,162	44,323	44,323	44,323	44,323	44,323	44,323	
Recommended Benchmark (Population per Amenity)	ND ²	10,000	70,000	ND	6,000	7,000	7,000	32,000	80,000	52,000	47,000	ND
Number of Amenities Required to Meet Benchmark for Recreation Amenities/2045 Population	ND	5 ³	0		8	7	7	2	0	0	0	
Gap in Current Amenity Provision Against 2045 Population Census	ND	5	No gap	ND	6	7	7	2	No gap	No gap	No gap	ND

2045 Amenity Gap

As illustrated in Table 11 on this page and continued on the following page, the projected population increase puts continued pressure on the demand for additional amenities. The 2045 population data serves as an illustration only, as population projections can and will likely shift. However, the benchmark tool serves as a useful gauge for service supplied and services needed against any population figure.

Similar to the 2020 graphic, the image below illustrates the demand for specific amenities with the 2045 population projections for the planning area. Each green icon indicates a single amenity in place in 2023. Icons in white indicate a shortfall based on benchmarking against the City's projected 2045 population and the current inventory of facilities within the Alexandria West boundaries. In 2045, the City will need to provide seven additional playgrounds for ages 5-12 to meet the recommended benchmark of playground per population.

Playgrounds (2-5)



Playgrounds (5-12)



Dog Park



Basketball Courts



Tennis Courts



PickleBall Court



Diamond Field



Rectangular Field



Overlay Field



The gap graphic above and the matrix to the left show the amenity gaps. For example, Alexandria West had zero pickleball courts at the time and our research found that typical peer communities have four pickle ball courts on average.

Park-ing Garage

Virginia Tech Urban Design Studio

Project: Explore the future of electric vehicle charging as demand for EV stations grows and reliance on traditional gas stations decreases. What does a gas station look like if charging takes hours?

Solution: I developed the parking garage with levels that support both EV charging and activities for people. This garage system slots into dense urban sites to provide urban residents with vital access to public recreational space. This design featured a playground and sport courts but can change depending on the site size and neighborhood needs.

Tools: Rhino, Grasshopper, ArchiCAD, InDesign, Photoshop, TwinMotion, Hand Drawing, Collage

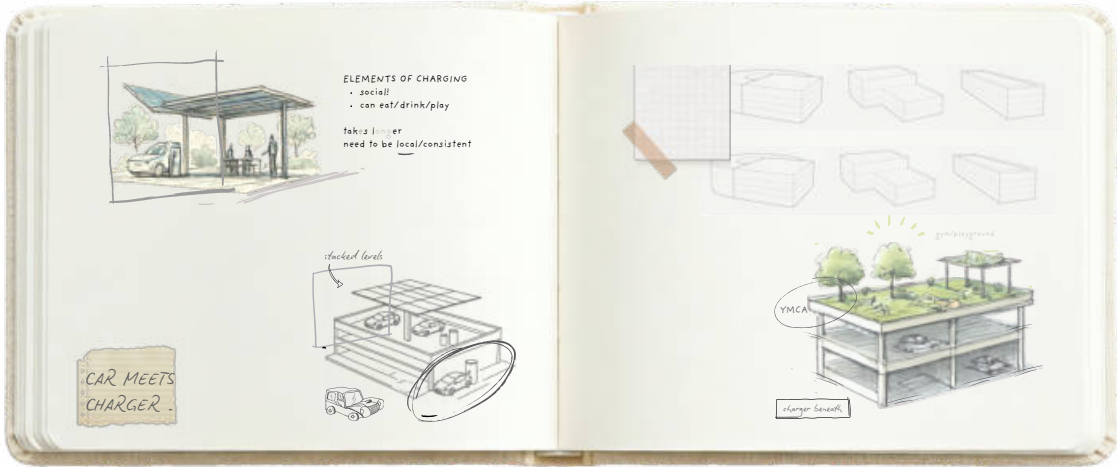


Initial spatial and program diagram

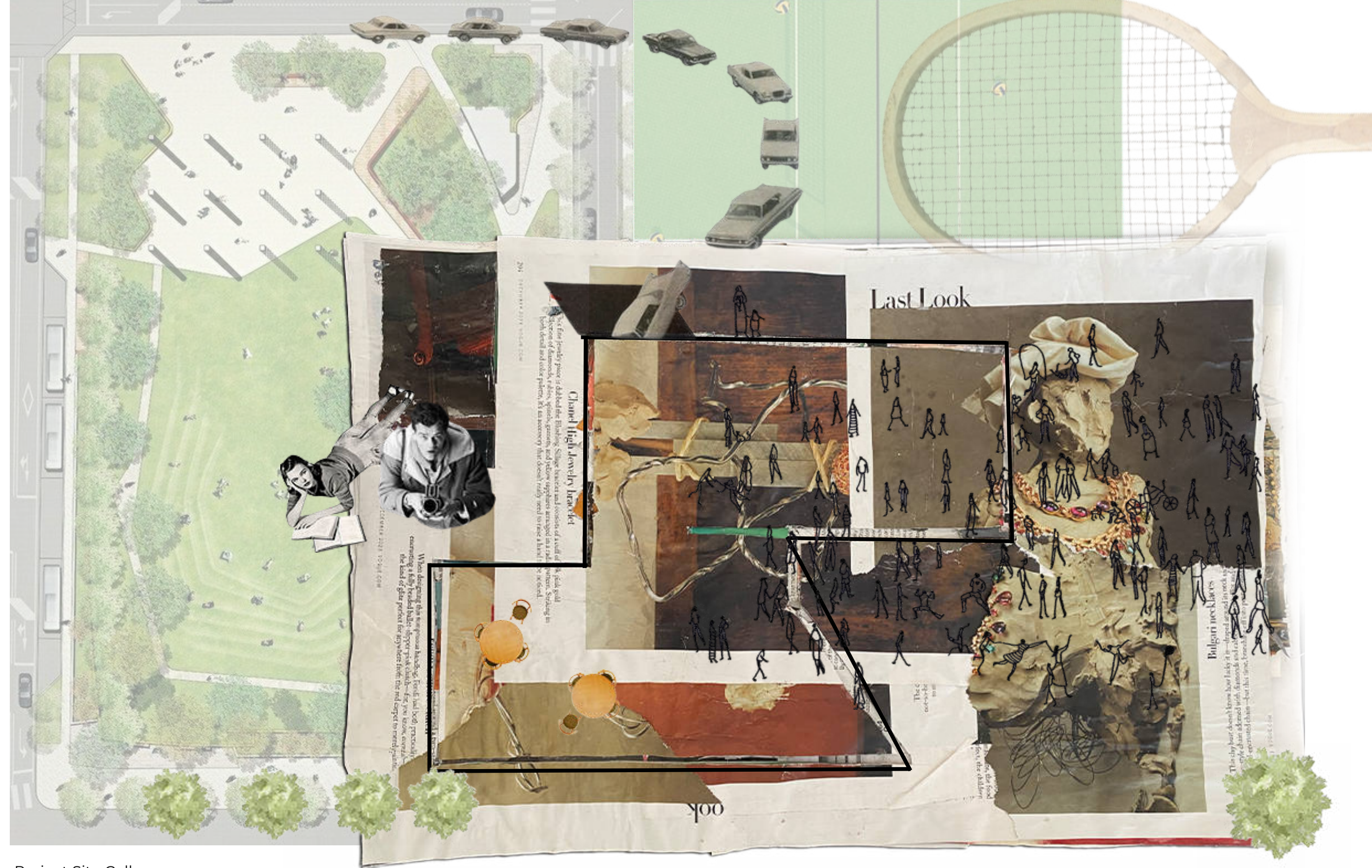
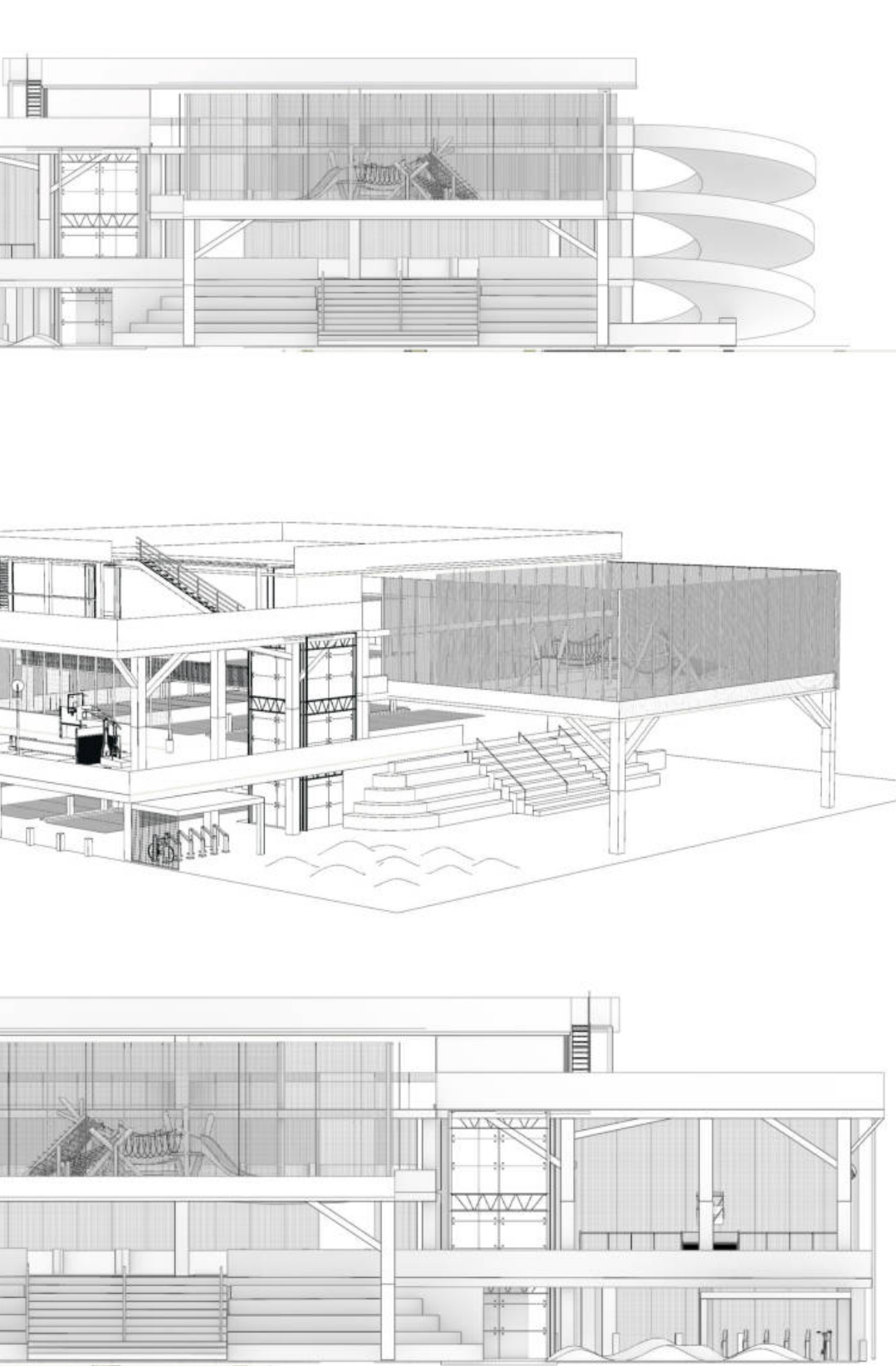
Site Selection



I chose a lot near D.C.'s Union Market where a key parcel adjacent to the market is occupied by an empty parking lot. Initial ideation and sketches helped me determine that I wanted this parking lot to become an urban park and destination for the neighborhood.



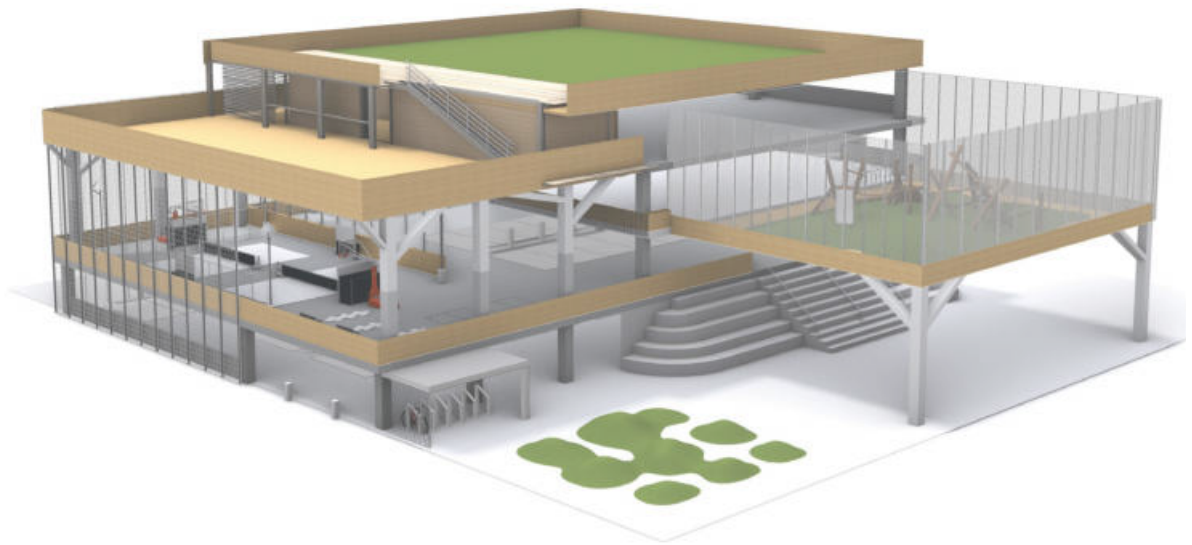
Park-ing Garage Cont.
Virginia Tech Urban Design Studio



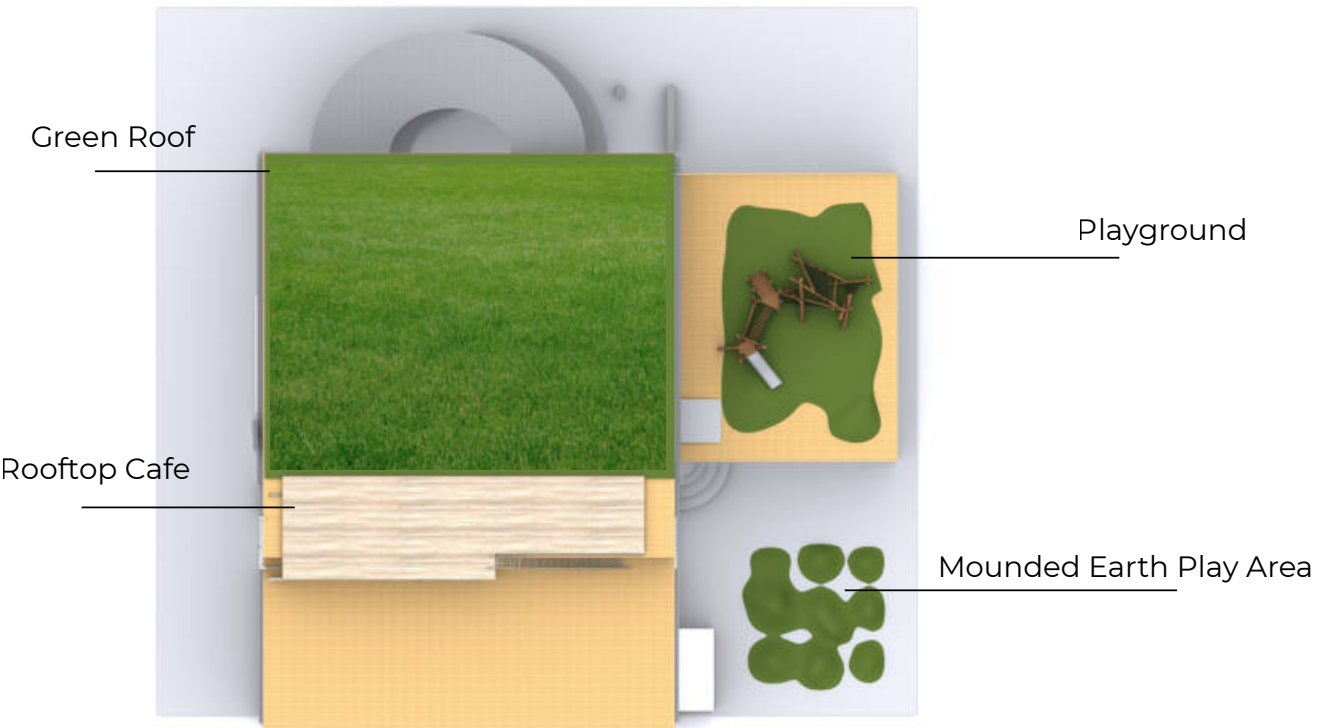
Project Site Collage



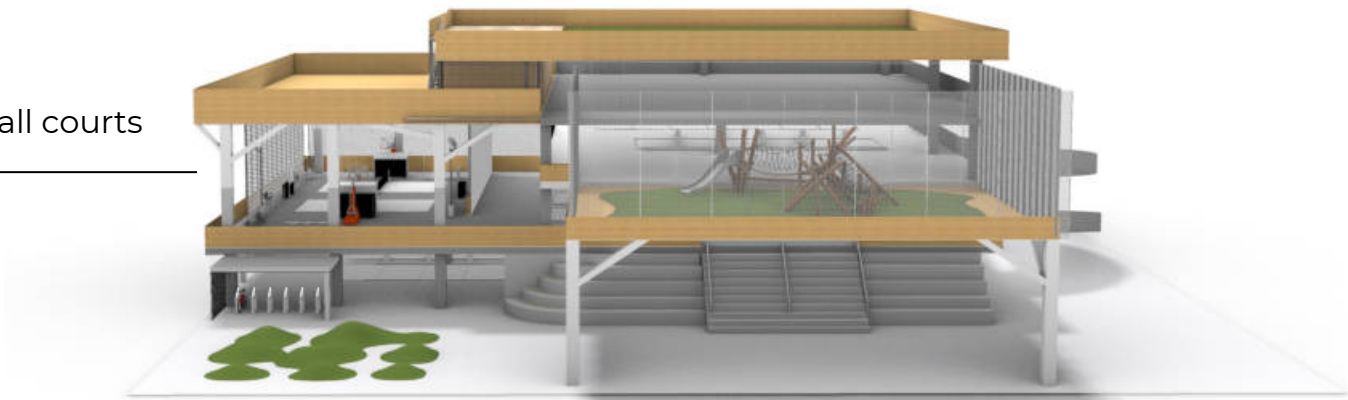
The parking structure has a rooftop garden and cafe with exercise machines and equipment.



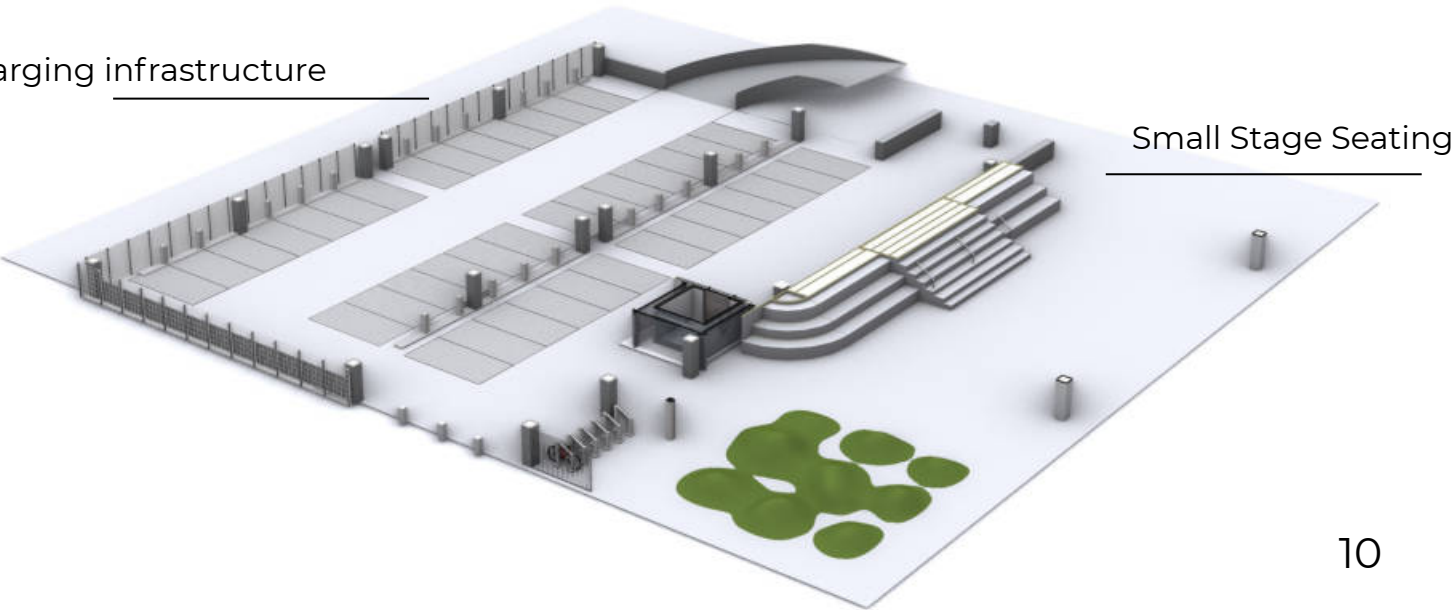
Each floor features electric chargers and a sport or recreational amenity. There is a playground, basketball court, cafe, and aerobic exercise park.



Basketball courts



Charging infrastructure



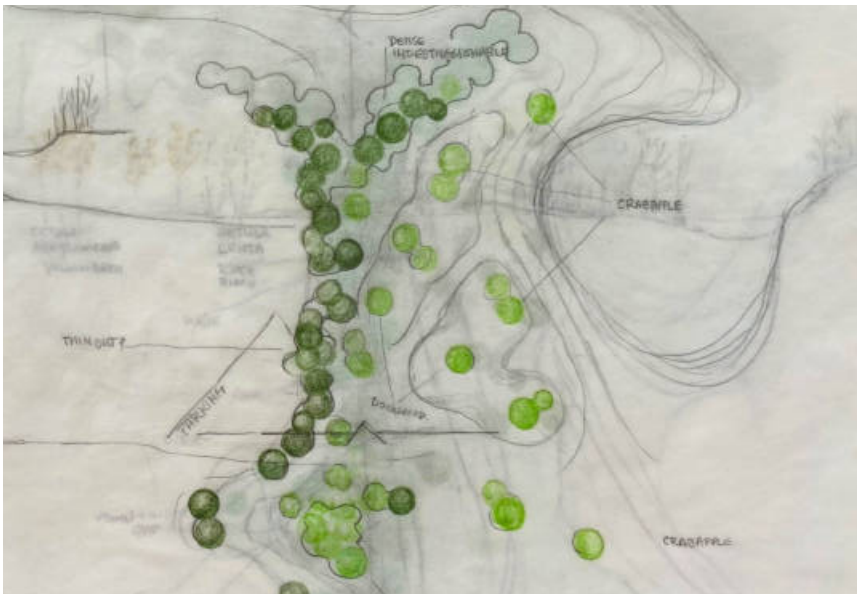
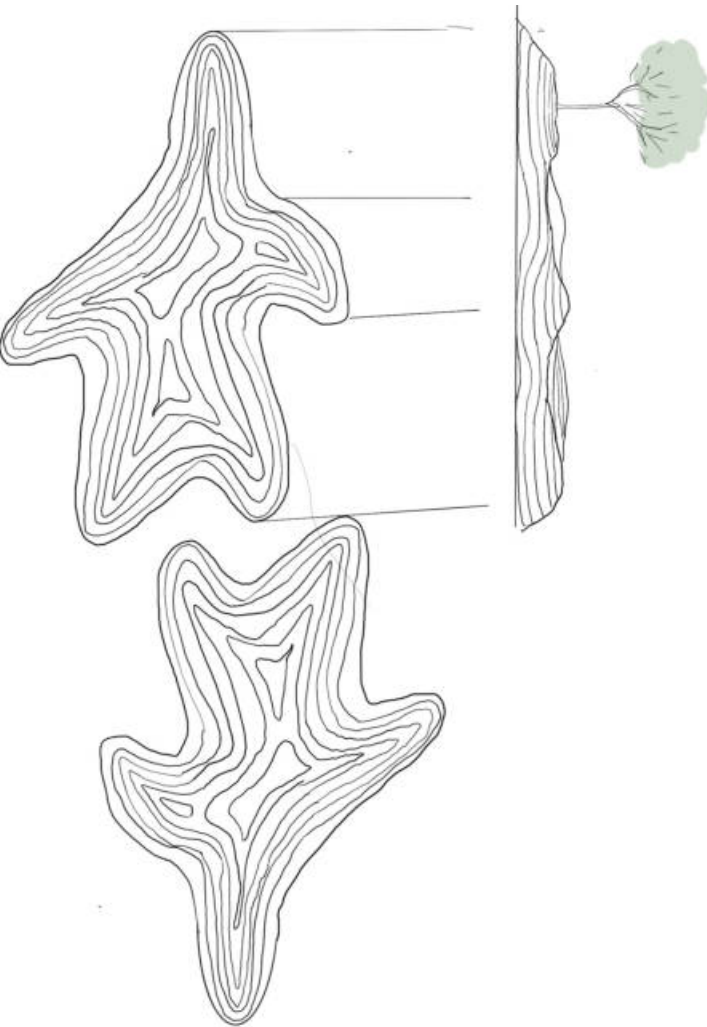
Constructing Sites

Virginia Tech Landscape Architecture Studio

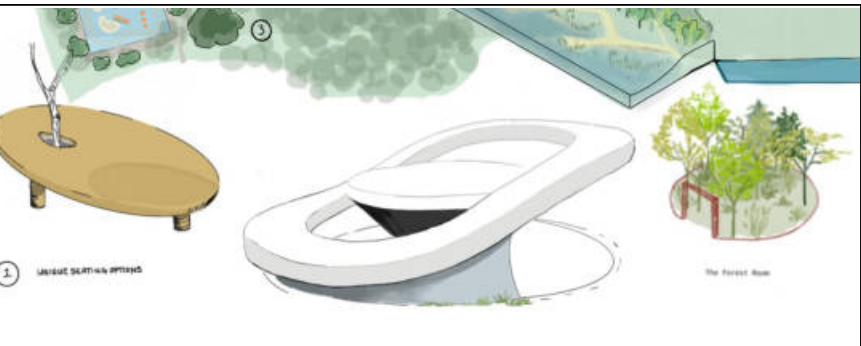
Project: The studio invited us to engage with topography and water volume to generate a site plan for a new park in an existing under-used public playground.

Solution: I explored topography to create a mounded playground that allows kids to play on miniature hills. The redesign featured sport courts, a half-shell amphitheater, and a topo-playground. My design interventions were based on previous planning and community meetings conducted by the city of Alexandria. I calculated stormwater volumes to generate a design that filters and retains stormwater.

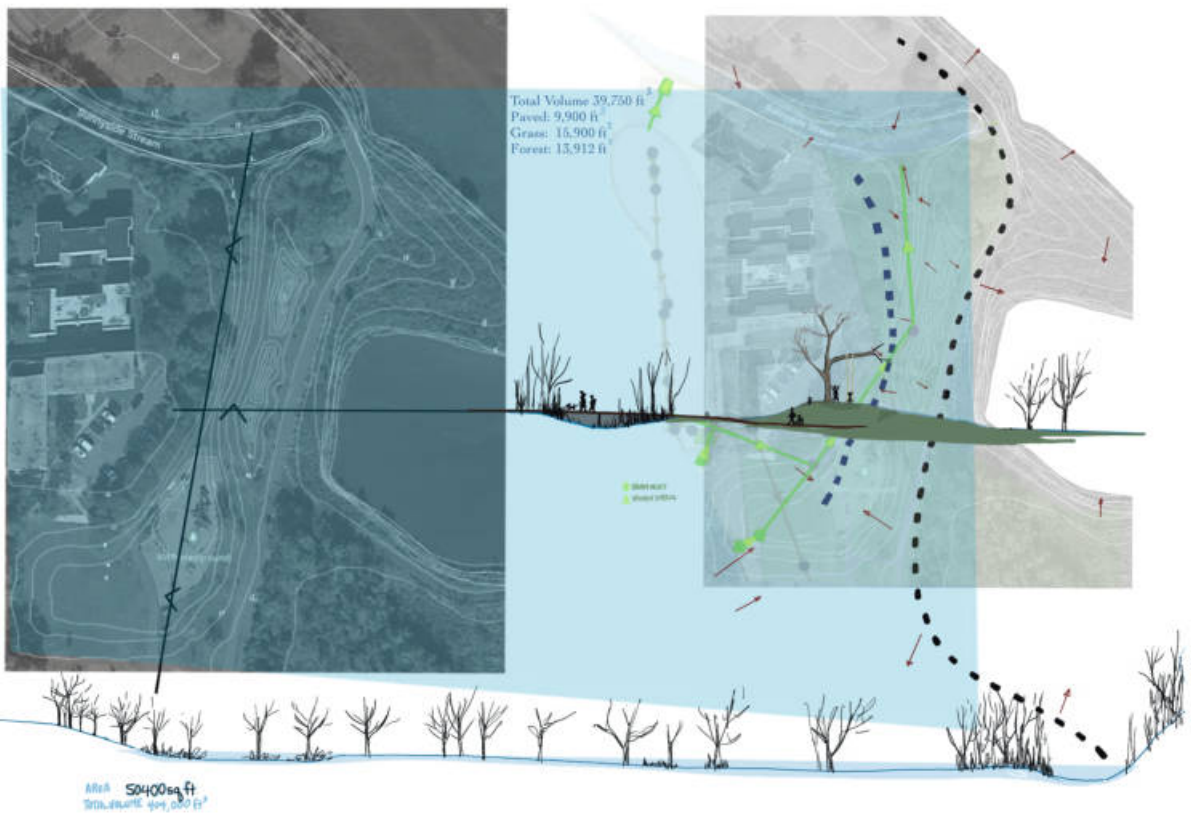
Tools: Photoshop, Illustrator, Procreate



Early Concept Sketch



Topography Site Plan



Park Cross Sections and Total Volume Calculations

The Logan Triangle Plan

American Planning Association
Student Design Competition

Project: The Logan Triangle Philadelphia neighborhood collapsed Provide solutions for housing, community development, and environmental healing.

Solution: I visited the site in person to gather photos and information, wrote content, designed graphics and layout, and owned the copyediting and polishing of the report. Our team won second place in the APA competition. (Title links to full report.)

Tools: Illustrator, CanvaPro, Photoshop, Dall-E, SketchUp, ArcGIS, Procreate, EPA Environmental Justice Screen



The Logan Triangle Site was home to a neighborhood built over a filled-in stream. It is now an abandoned brownfield. Former residents were forced to move when their houses started to collapse or even explode due to severe soil subsidence and resulting gas leaks.



Concept Sketch



I visited the abandoned Logan Triangle in Philadelphia. The site has a painful history and is dangerously contaminated.



Final Schematic Design

My grad school team and I developed a schematic design guidebook for former residents of the Logan Triangle and surrounding community. This included a schematic plan with community center, housing, sport courts, park, and bioswales. We also developed a housing typology guide, and phasing strategy.





THANK YOU FOR READING